FEASIBILITY STUDY

Craven County
Road Improvement in Vicinity of Craven County
Regional Airport
FS-890016

Prepared by
Planning and Research Branch
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N. C. Department of Transportation

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I. GENERAL DESCRIPTION

This report is a feasibility study of proposed roadway improvements in the vicinity of Craven County Regional Airport. These improvements consist of the realignment of SR 1004 and SR 1167 to improve traffic flow in the area surrounding the airport. This study was prepared at the request of Division Engineer G. R. Shirley, Jr. The project was coordinated with the Manager of the Craven County Regional Airport and with the Aeronautics Branch of the North Carolina Department of Transportation.

II. PURPOSE OF PROJECT

Background of Project

In 1964, a portion of SR 1167 was abandoned to provide necessary clearances for Runway 13 of Craven County Airport. The roadway pavement was left in place and can be seen on Figure 2. The abandonment of this portion of roadway resulted in a more circuitous route for residents of the Brice's Creek area, located west of the airport, desiring access to US 70. Many of the residents were unhappy with this situation, and in 1978 a campaign to have the road reopened was mounted. This campaign was unsuccessful due to the inability to resolve the conflict between the close proximity of the road to the runway and the clearances required by the Federal Aviation Administration.

Over the past few years, the population of the Brice's Creek area has grown substantially with the construction of new subdivisions. Along with the increase in population, the desire for better access to US 70 has been increasing.

Existing Route Characteristics

SR 1004 and SR 1167 provide the primary access to US 70 from the rapidly growing residential area around Brice's Creek and the south shore of the Trent River. These roads also provide a cross country route between Pollocksville, on US 17, and James City, on US 70 just east of New Bern. SR 1004 and SR 1167, along with a new connector around the end of Runway 13, are included in the New Bern Thoroughfare Plan as a Major Thoroughfare (see Figure 3). Both of these roads are classified as Urban Collectors in the North Carolina Functional Classification System.

The existing cross section on SR 1004 consists of a 22-foot paved roadway with 6-foot unpaved shoulders, while the cross section on SR 1167 consists of an 18-foot paved roadway with 5-foot unpaved shoulders. The existing horizontal alignment on SR 1004 is fair in the project area, with an approximate 6-degree curve at the southern end of the project. The horizontal alignment on SR 1167 is poor with an approximate 33-degree curve at the north end of the project. The vertical alignment on both roads is good. The speed limit on the roads is 45 mph. The only intersection in the project area is where SR 1167 tees into SR 1004. This intersection is controlled by a stop sign on SR 1167.

Roadside development in the project area consists of moderate density residential development and airport development. The residential development is continuing to intensify, with several houses presently under construction on SR 1167.

Traffic Volumes, Capacity, and Accident Record

The current traffic volume on SR 1004 is 2700 vehicles per day (vpd) in the project area, and the current volume on SR 1167 is 2600 vpd. These volumes are expected to increase to approximately 4900 vpd by the year 2010 on the realigned roadway. A two-lane, shoulder cross section should be sufficient to handle the anticipated traffic volume.

During the three and one-half year period from January 1, 1986 through June 30, 1989, a total of 23 accidents were reported on the subject portions of SR 1004 and SR 1167. This resulted in an accident rate of 774.4 accidents per 100 million vehicle miles (ACC/100 MVM) compared to a statewide average of 413.8 ACC/100 MVM for all rural secondary roads over the same period and an average of 378.3 ACC/100 MVM for all urban secondary roads over the period. The primary accident type involved vehicles running off the road. This accounted for over 60% of the accidents. The improvement of the horizontal alignment recommended in this report should reduce the potential for this type of accident.

Need for Project

The realignment of SR 1004 and SR 1167 is needed to improve access between the Brice's Creek area and US 70. The proposed realignment will provide a more direct route between this growing residential area and US 70 and provide a safer roadway by improving the curvature.

III. RECOMMENDATIONS AND COSTS

The recommended improvement is the realignment of SR 1004 and SR 1167 to tie directly into each other while maintaining sufficient clearance of Craven County Airport's Runway 13. The recommended alignment is shown on Figure 2 and includes the improvement of the existing sharp curve on SR 1167. The recommended cross section is a 24-foot paved roadway with 10-foot unpaved shoulders.

The required clear zone for Runway 13 is flat for the first 200 feet beyond the end of the runway. At the 200-foot point, the clear zone is 500 feet wide and begins a 20:1 upward slope. This portion of the clear zone tapers outward to 800 feet wide at a point 1000 feet beyond the end of the runway. In order to have the required 15-foot clearance between the roadway and the clear zone, the roadway would have to be located an additional 300 feet beyond the 200-foot flat zone (assuming the elevation of the road and the runway are the same). This assumption was made for the design shown on Figure 2. If the grade of the roadway could be lowered during the design of the project, the roadway could be built closer to the end of the runway and the horizontal alignment could be improved.

The estimated costs of the project are as follows:

Construction	$400,000
Right-of-Way	200,000
TOTAL	$600,000

The construction cost includes engineering and contingencies, and the right-of-way cost includes relocation, acquisition, and utility costs.

IV. ALTERNATIVES CONSIDERED

In addition to the recommended alignment, one alternative alignment was considered. This alignment is shown on Figure 2. This alternative is not recommended because of the relatively large amount of new right-of-way required with the resulting impacts on adjacent development, and the presence of a pocket of wetlands at the intersection of this alignment and SR 1004.

The alternative of reconstructing the roadway along the former roadbed was also considered. This would provide a much better alignment than the recommended design, but it would require the threshold of Runway 13 to be displaced approximately 400 feet. This would require the extension of the runway an equivalent length on the other end. The cost of the extension when added to the cost of rebuilding the abandoned roadway would make this alternative very costly.

V. ENVIRONMENTAL EFFECTS

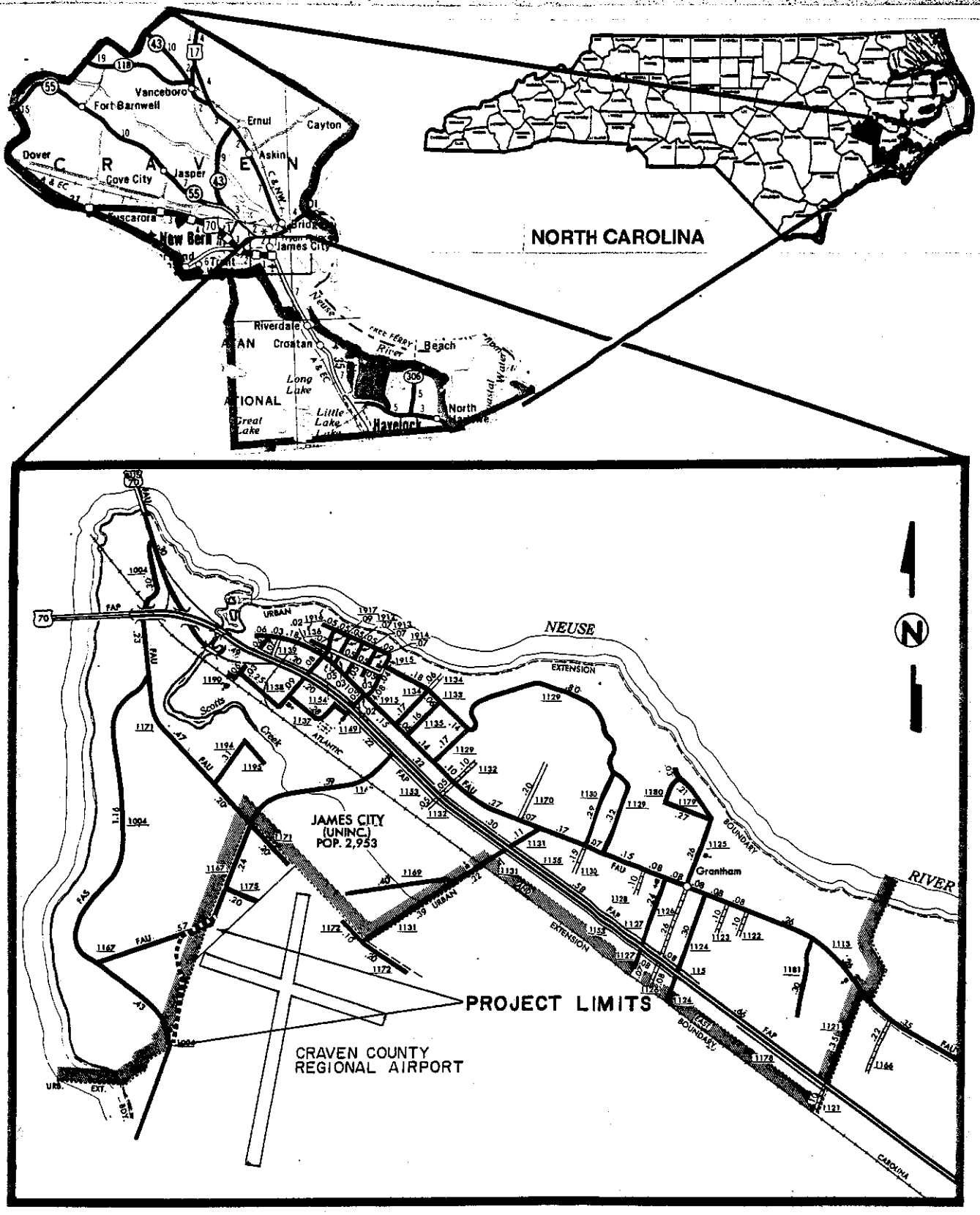
The implementation of the proposed project is not expected to result in any significant impact on the environment. It is estimated the construction of the project will require the relocation of one residence. This residence is under construction on the inside of the sharp curve on SR 1167. It might be possible to avoid this relocation and thereby reduce the right-of-way cost by utilizing a tighter curve in this area; however, this curve should be improved as much as practical in conjunction with this project. The project will also result in increased noise levels for homes located along the old section of roadway, which is presently a dead end road but will become a major through street upon completion of the project. Other impacts will be primarily related to the actual construction of the project and will cease upon completion of the project. These include minor erosion and siltation, increased noise levels from construction machinery, and delay and inconvenience to motorists and area residents.

VI. FUTURE ACTIVITIES

If the project is to be implemented at a future date, all feasible alternatives and there associated impacts will need to be evaluated in a planning/environmental document prior to that time, and a final decision made as to the most appropriate improvement.

The Craven County Regional Airport has been experiencing steady growth since the mid 1980's. This growth reflects the population and economic growth of the area. As the area continues to grow and develop, the demand for increased passenger service, air freight and general aviation services will continue to grow. With the growth of the airport, there will come the need to improve the roads serving the airport, such as SR 1131 which provides access to the passenger terminal. These needs are beyond the scope of this project and will require further study in a future report.

RBD/plr



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH

CRAVEN COUNTY
ROAD IMPROVEMENTS IN VICINITY
OF CRAVEN COUNTY
REGIONAL AIRPORT

FIG. 1

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CRAVEN COUNTY ROAD IMPROVEMENTS IN VICINITY OF CRAVEN COUNTY REGIONAL AIRPORT

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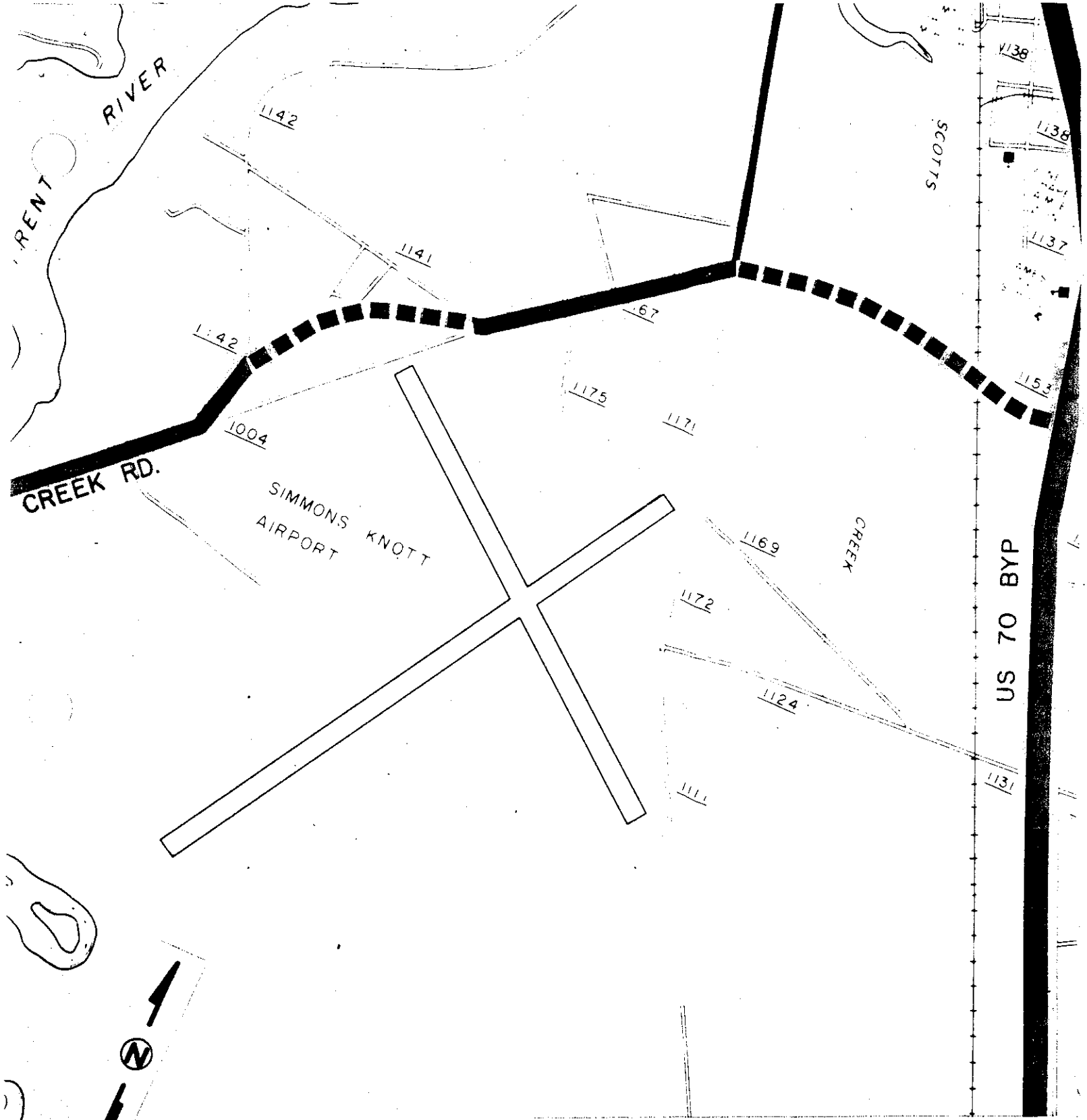
FIG. 2



	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH
CRAVEN COUNTY ROAD IMPROVEMENTS IN VICINITY OF CRAVEN COUNTY REGIONAL AIRPORT PORTION OF NEW BERN THOROUGHFARE PLAN	
	FIG. 3